

distended capillary vessels, and that these living particles grew and increased in the exudation after its escape. Hence he could accept neither theory, since the "exudation" contained solid living particles, but these living particles could not be considered "cells," for they had not the structure, nor were they produced in the manner which those who accept the cell theory believe cells to result. He then stated, that besides the white and red corpuscles of the blood, the *liquor sanguinis* contains an enormous number of the extremely minute particles just referred to, and he hazarded the opinion that it was such living active particles that we were to regard as the active animal "ferments" which give rise by the so-called "catalysis" to contagious and infectious diseases, as smallpox. These germs might pass in a living state from one person to another, and multiply. There could be no more interesting field for investigation than this. He then went on to state that every living particle is derived from some pre-existing living or germinal matter; that the formed material on the other hand was dead matter; and that in it chemical and physical changes occurred, but not the so-called *vital actions*; the latter being confined to the germinal matter alone. The living germinal matter of the white corpuscles in the blood, if allowed to die very slowly, under certain conditions became resolved into the hæmato-crystalline of which the red blood corpuscles were composed. This, as is well known, readily assumes the crystalline form. If the death of the living matter occurred more quickly, the result was fibrin, so that the formation of fibrin was a vital process—in fact, that the germinal matter in dying became fibrin. Dr. Beale then introduced the theories of Professor Lister on the coagulation of the blood; and although disagreeing in his views, yet spoke most highly of his labours, and regretted that English reviewers, who were enabled to give lengthy and elaborate criticisms upon the works of foreign observers, passed over with a few words of approval or dissent the labours of their fellow-countrymen. Dr. Beale thought that there was more real conscientious physiological work done in Great Britain than many supposed.—*Dublin Med. Press*, Feb. 3, 1864, from the *Electrician*.

2. *Variety of the Muscles of the Axis, Atlas, and Occipital Bone.*—Dr. JOHN STRUTHERS showed to the Medico-Chirurgical Society of Edinburgh a dissection in which the muscles which normally arise from the spine of the axis were shifted down to the spine of the third vertebra. The spine of the axis wanted its usual bifurcation and great size. The rectus capitis posticus major muscle arose entirely at the spine of the third vertebra. The recti minores were normal between the atlas and occiput. The interspinales muscles were absent between the atlas and axis, but present between the axis and third vertebra. The obliquus inferior muscle arose in its great bulk at the spine of the third vertebra, and this at first appeared to be the entire muscle; but a portion, about one-fourth the size of the lower, was then found coming normally from the spine of the axis, lying deeply on the lamina, and joining the large portion above its middle. The obliquus superior was normal. At first the attachment of the rectus major and obliquus inferior at the third vertebra seemed to be directly to a massive spinous process; but, on dissection, it became evident that, while the spine of the third vertebra was larger and more largely bifid than usual, the muscles were fixed to it indirectly, that they were attached to a thin flat oval sesamoid-like bone, resembling a rather small-sized almond. This epispinous bone was attached to the corresponding tubercle of the third spine by a strong ligament, and by ligamentous fibres to its fellow of the other side. The interspinales muscles in the space between the third vertebra and axis were large, and seemed also to be attached below entirely to the epispinous bones; but there was a deeper and smaller pair of interspinales, which were attached directly to the spine of the third vertebra. The muscles which normally pass from below to the spine of the axis, were attached to the third spine through the epispinous bones instead of reaching up to the axis.

This was undoubtedly a very singular variety. Looking to the absence, as usual, of interspinales in the space between the first and second vertebrae, and their presence in the space between the second and third, while the recti majores were at the same time attached below the latter space; and looking also

to the fact that the obliquus inferior retains a small head of attachment to the spine of the axis, we must draw the conclusion that the epispinous bones represent the two tubercles which are usually developed from the spinous process of the axis, for the attachment of the rectus major and obliquus inferior muscles above, and, below, for the semispinalis and other muscles. But it remains a question how these tubercles came in this body to be separate, and to be shifted down to the spine of the third vertebra, carrying their muscles with them.—*Edinburgh Med. Jour.*, May, 1863.

MATERIA MEDICA AND PHARMACY.

3. *Quinia as a Local Antiseptic.*—Dr. R. GIESELER has been led to adopt the use of quinia as a local antiseptic. From experiments which he made, he found that the preservative property exerted on fresh meat by pure quinia (not the sulphate only) was greater than that of many other substances including even cinchona. He therefore determined to apply quinia in surgical cases; and his first case was one of extensive carbuncular inflammation in a man aged 25. The whole of the lower half of the left calf, including the upper third of the tendo-Achillis, was in a gangrenous state, which threatened to extend round the limb. At the upper part, the soft structures were destroyed to the depth of about an inch; and the tendinous portions of the gastrocnemius were being thrown off in shreds, with ichorous discharge. The fibres of the tendo-Achillis, where diseased, appeared as if macerated; and the edges of the whole tendon were undermined. The leg was much enlarged; its skin had a bluish red colour; and the soft parts were indurated. The diseased parts exhaled a most offensive smell, filling the small room in which the patient lay. He kept the knee flexed, so that the leg rested on the thigh; and it was scarcely possible to bring the limb even to a right angle. The patient suffered continuous pain in the whole leg, and especially in the foot; he had loss of appetite, fever, and profuse sweats. The disease had commenced four weeks previously as a very tender black spot on the skin, and had been treated, by the practitioner called to the case, by warm applications, and, after the separation of the slough, by ointment of nitrate of silver, and subsequently by oil of turpentine and by myrrh ointment. The gangrene, however, spread in depth and in circumference. Dr. Gieseler first endeavoured to improve the patient's health by tonics, especially cinchona; and, as applications to the limb, he employed effusions and bandages soaked in a strong decoction of poppy-heads with opium. As no improvement was produced by the continuance of this treatment during eight days, he determined, as a last resource before performing amputation, to try the effect of the local application of quinia. Accordingly, a solution of this substance was applied in compresses over the entire gangrenous parts, the whole being covered in with warm poultices. During the first week, the internal remedies were continued. In the course of the first day, the pain abated, and the patient passed a tolerably quiet night. A change in the appearance of the parts could not naturally be at once expected; but the separation of the dead parts took place very gradually. At the end of three weeks, the separation was complete at the upper part, and healthy granulation was commencing; the diseased portions of the tendo-Achillis, were not thrown off until a later period. The process of cicatrization went on favourably, and was complete three months after the patient first came under Dr. Gieseler's care. The man ultimately recovered the perfect use of his leg. Dr. Gieseler says that on several occasions, for the sake of experiment, he omitted the quinia, and used warm applications only; the result always was, that the pain was renewed.

The next case related is one of noma, occurring in a child three years old. Dr. Gieseler was called to this patient on account of an ulcer at the right corner of the mouth; this was, however, found to be connected with gangrenous disease of the cheek, which was much infiltrated, and, although the skin was un-